

REMARKS

Claims 1-21 are pending. Claims 1 and 4-7 have been amended, and new claims 10-21 have been added to recite additional features of Applicant's invention.

Reconsideration of the application is respectfully requested for the following reasons.

In the Office Action, claims 6-9 were rejected under 35 U.S.C. §112, second paragraph, for containing a phrase which appeared to be inconsistent with the specification. Particularly, the Examiner indicated that the specification and figures failed to support recitation of "transmitting the amplified AGC signal to the modem." Claim 6 has been amended to recite that the signal amplifier amplifies "the first adjusted AGC signal applied to the gain controller to form a second adjusted AGC signal, the second adjusted AGC signal amplified at a voltage level according to a predetermined level of performance of the modem." Claim 6 further recites that the second adjusted AGC signal is then transmitted to the modem. See, for example, Figure 5 and corresponding portions of the specification.

In Figure 5, modem 210 inputs an AGC signal into an AGC adjuster 228. This adjuster forms a first adjusted AGC signal which is input into gain controller 240. This same signal is also input into signal amplifier 224, and the output of this amplifier corresponds to a second adjusted AGC signal which is input into modem 210 along a feedback path.

In view of the foregoing amendments and remarks, it is respectfully submitted that claim 6 comports with the requirements of §112, second paragraph. Withdrawal of the §112 rejection is therefore respectfully requested.

Claims 1-9 were rejected under 35 U.S.C. §103(a) for being obvious in view of a combination of Figure 1 of Applicant's drawings and the Wheatley patent. This rejection is traversed for the following reasons.

Claim 1 recites that the power controlling circuit includes "a first resistor coupled in parallel to a thermistor to form a voltage divider, the voltage divider dividing the AGC signal based on resistance values of the first resistor and the thermistor to generate the adjusted AGC signal." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Applicant's Figure 1 shows a transmitter including a modem 110 which generates an intermediate frequency (IF) signal for input into a gain controller 120. A gain of controller 120 is adjusted based on a signal output from the modem. Figure 1, however, does not teach or suggest the power controlling circuit recited in claim 1. To make up for these deficiencies, the Wheatley patent was cited.

The Wheatley patent discloses a compensation circuit 100 which generates an automatic gain control signal for an IF amplifier 120. The compensation circuit includes a thermistor (used in place of diode 112) coupled in parallel to a resistor 114. See Figure 2 and column 5, lines 27-

28, where diode 112 is mislabeled 114. A node between the thermistor and this resistor is used to input a reference signal into an operational amplifier 102, which compares the reference signal to an automatic gain control signal. Op amp 102 outputs the result of this comparison as an adjusted AGC signal for controlling the gain of IF signal amplifier 120.

Notwithstanding these disclosures, the Wheatley patent does not teach or suggest that its thermistor is coupled to a resistor in parallel to form a voltage divider, “the voltage divider the voltage divider dividing the AGC signal based on resistance values of the first resistor and the thermistor to generate the adjusted AGC signal” as recited in claim 1. That is, while the thermistor and resistor 114 used in the Wheatley compensation circuit are coupled in parallel, they do not form a voltage divider which divides an AGC signal based on their resistance values to generate an adjusted AGC value. Instead, the Wheatley thermistor is used to set a reference voltage into the operational amplifier, which is clearly different from the arrangement claimed.

Because the Wheatley patent does not teach or suggest the added by amendment to claim 1, it is respectfully submitted that claim 1 and its dependent claims are non-obvious and thus allowable over a Figure 1-Wheatley combination.

Claim 5 recites that the power controlling circuit includes “a first resistor whose one side is connected with the modem, a second resistor whose one side is connected with the first resistor and whose other side is connected with the gain controller, and a thermistor whose one side is earthed and whose other side is connected with the first and second resistors in parallel.”

The Wheatley patent does not disclose these features. As shown in Figure 2, the Wheatley thermistor is coupled in parallel to a resistor 114. This thermistor is not, as recited in claim 5, electrically connected with first and second resistors in parallel, where the first resistor has one side connected to a modem and another side connected to a second resistor which is then connected to a gain controller. Applicants respectfully submit that claim 5 and its dependent claims are allowable over a Figure 1-Wheatley combination based on these differences.

Claim 6 recites a power controlling circuit which includes “a signal amplifier for amplifying the first adjusted AGC signal applied to the gain controller to form a second adjusted AGC signal, the second adjusted AGC signal amplified at a voltage level according to a predetermined level of performance of the modem and transmitted to the modem.” The Wheatley patent does not teach or suggest these features.

As shown in Figure 2, operational amplifier 102 generates an adjusted AGC signal for controlling the gain of amplifier 120. Unlike claim 6, however, neither compensation circuit 100 nor any other portion of the Wheatley system discloses forming a “second adjusted AGC signal” which is “amplified at a voltage level according to a predetermined level of performance of the modem” for transmission to the modem. Applicants respectfully submit that claim 6 and its dependent claims are allowable over a Figure 1-Wheatley combination based on these differences.

Claim 7 recites that the “thermistor has one side connected with the modem and another side connected with the gain controller” and that “the resistor has one side earthed and another side connected with the thermistor in parallel.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 8 recites that the AGC adjuster is similar to the power controlling circuit recited in claim 5. As previously discussed, such a power controlling circuit is not taught or suggested by the cited references, whether taken alone or in combination.

New claims 10-21 have been added to the application.

Claim 10 recites that the first resistor and the thermistor in claim 5 “form a voltage divider for dividing the AGC signal based on resistance values of the first resistor and the thermistor” and that “the second resistor modifies a signal output from the voltage divider to form the adjusted AGC signal.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 11 recites that the AGC adjuster of claim 6 is similar to the power controlling circuit recited in claim 1. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 12 recites that the first resistor and the thermistor of claim 8 “form a voltage divider for dividing the AGC signal based on resistance values of the first resistor and the thermistor,” and that the “second resistor modifies a signal output from the voltage divider to

form the adjusted AGC signal.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 13 recites that the signal amplifier of claim 6 includes “an operational amplifier having a first terminal coupled to receive the first adjusted AGC signal and a second terminal coupled to receive a reference voltage.”

Claim 14 further recites a “control circuit coupled to a gain of the operational amplifier to amplify the first adjusted AGC signal according to the predetermined level of performance of the modem.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 15 recites that the control circuit of claim 13 includes “a capacitor coupled to a gain control input of the operational amplifier to a node coupled to a supply voltage, a capacitance of the capacitor set to correspond to the predetermined level of performance of the modem.” (See, for example, Figure 5 for support.) These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 16 recites that the signal amplifier of claim 11 includes “an operational amplifier having a first terminal coupled to receive the first adjusted AGC signal corresponding to the divided AGC signal generated by the voltage divider and a second terminal coupled to receive a reference voltage.” (See, for example, Figure 5 for support.) These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 17 recites that the AGC adjuster of claim 6 is similar to the power controlling circuit defined in claim 5. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 18 recites that the signal amplifier of claim 17 includes “an operational amplifier having a first terminal connected to receive the first adjusted AGC signal from the second resistor and a second terminal coupled to receive a reference voltage.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 19 recites that the modem of claim 6 “monitors the first adjusted AGC signal and modifies the AGC signal input into the AGC adjuster based on changes in the second adjusted AGC signal.” (See, for example, Figure 5 and page 9 of the specification for support.) These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 20 recites that the modem of claim 19 further “monitors the first adjusted AGC signal based on the second adjusted AGC signal fed back from the signal amplifier.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 21 recites that the modem “estimates an internal temperature of the mobile communication terminal based on the second adjusted AGC signal, compares the estimated temperature to a reference temperature, and generates the AGC signal input into the AGC

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adjuster based on the comparison.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

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